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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,027	08/06/2003	Hyeong-Jun Kim	4591-331	1037

7590 12/09/2004
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Portland, OR 97205

EXAMINER

PRENTY, MARK V

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/636,027

Applicant(s)

KIM, HYEONG-JUN

Examiner

MARK V PRENTY

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 21-34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date November 8, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2822

This Office Action is in response to the amendment filed on October 13, 2004.

Claims 21-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

Claims 1, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minakata et al. (newly cited United States Patent 6,504,197 – hereafter Minakata) together with Tracy et al. (United States Patent 5,902,690 – hereafter Tracy – already of record).

With respect to independent claim 1, Minakata discloses a magnetoresistive memory device (see the entire patent, particularly the Fig. 1 disclosure) comprising: a conductive pattern 12 disposed over a substrate 11 with an insulation layer interposed therebetween (note column 3, lines 62-63); a magnetoresistive memory cell M disposed on the conductive pattern; and an interlayer dielectric layer 16 disposed on the insulation layer to cover sidewalls and a top surface of the magnetoresistive memory cell.

The difference between claim 1 and Minakata is their interlayer dielectric layers comprise a high permeability magnetic material layer and a silicon dioxide layer, respectively.

Tracy teaches surrounding magnetoresistive memory cells with a high permeability magnetic material layer in order to advantageously focus internally generated magnetic fields (see the entire patent).

It would have been obvious to one skilled in this art to form Minakata's magnetoresistive memory device's interlayer dielectric layer 16 of high permeability magnetic material in order to advantageously focus internally generated magnetic fields, as taught by Tracy.

Claim 1 is thus rejected under 35 U.S.C. 103(a) as being unpatentable over Minakata together with Tracy.

With respect to dependent claim 7, Tracy's high permeability magnetic material layer is formed of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO or NiFeO (see the entire patent, including the Abstract, for example).

Claim 7 is thus rejected under 35 U.S.C. 103(a) as being unpatentable over Minakata together with Tracy.

With respect to dependent claim 8, Minakata's magnetoresistive memory cell M comprises a lower ferromagnetic layer pattern 13, a nonmagnetic layer pattern 14, and an upper ferromagnetic layer pattern 15 that are sequentially stacked on the conductive pattern 12.

Claim 8 is thus rejected under 35 U.S.C. 103(a) as being unpatentable over Minakata together with Tracy.

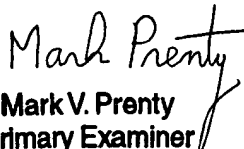
Claims 2-6 and 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 15-20 are allowable over the prior art of record.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Registered practitioners can telephone the examiner at (571) 272-1843. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the Application/Control (Serial) Number. Technology Center 2800's general telephone number is (571) 272-2800.


Mark V. Prenty
Primary Examiner